

AP State Board 10th Class Question Papers of Physical Science

Instructions that must be followed by students while solving this Physical Science Question Papers are as follow:

1. This paper consists of two parts namely Part-A and Part-B
2. **Part -A** include four sections for time duration of 2 hours and 35 marks as total.
3. **Part-B** is for time duration 1/2 hour and contain 15 marks as total.
4. Marks are allotted to respective questions.

PART - A.

Time: 2 Hours PART- A Marks: 35

SECTION - I

Note: Answer any FIVE questions choosing at least TWO from each group. Each question carries TWO marks.

GROUP – A 5 * 2 = 10

1. What is simple harmonic motion? Write down its characteristics?

Ans: The to-and-fro motion of a particle about a mean position on a fixed path and position is called simple harmonic motion

2. A 1.5 V battery is connected across a bulb. Find the resistance of the filament if the current is 0.15?

Ans: By Ohm's law we have $V=IR$.

$$\Rightarrow R=V/I$$

$$\Rightarrow R=1.5/0.15=10\Omega$$

3. What are Hardware and Software of a Computer?

Ans:- All the physical components like CPU, input and output devices are called Hardware of a Computer. The Compiler and the programmer which we write are called as Software of a Computer.

GROUP - B

4. Distinguish between orbit and orbital.

<u>ORBIT</u>	<u>ORBITAL</u>
1) The path of an electron around the nucleus is called orbit.	1) The region in space where there is a probability of finding an electron is called an orbital.
2) It is two dimensional.	2) It is three dimensional.
3) Its shape is circular.	3) It has spherical or dumb-bell

4) The maximum number of electrons in any orbit is $2n^2$.

shape.

4)The maximum no of electrons is 2.

5. What are the uses of Cold-Cream?

Ans:- Uses are as follows-

- Cold creams are used as cosmetics for skin.
- They protect the skin from hot sun, effect of cold breeze and dust.
- They clean the skin and make it feel smooth.
- A good quality cream melts at body temperature and spreads readily over the skin
- It should not be sticky and greasy.

SECTION - II

Note: Answer any FOUR. Each question carries ONE mark. $4 * 1 = 4$

6. State Hooke's Law.

Ans:- Within the elastic limit, stress is directly proportional to the strain.

7. What is a Spectrum?

Ans:- A group of wavelengths or frequencies is called a spectrum

8. Name the inert gases.

Ans:- Helium, Neon, Argon, Krypton, Xenon, Radon are inert gases.

9. What are the advantages of hydrogenation of oils?

Ans:- Hydrogenation of oils improves preservation, taste and odor of many oils.

SECTION - III

Note: Answer any FOUR questions. Each question carries FOUR marks. $4 * 4 = 16$

10. Compare the properties of α , β and γ radiations.

<u>α-rays</u>	<u>β-rays</u>	<u>γ-rays</u>
1) These are positively charged particles.	1) These are negatively charged particles called electrons.	1) γ - rays are electromagnetic radiations.
2) The speed of α - particles is of the order of 10^7 m/s.	2) The speed of the β particles is of the order of 10^8 m/s.	2) The speed of the γ - rays is equal to the velocity of light (3×10^8 m/sec)
3) The penetrating power of α - rays is less than β - rays and γ -	3) The penetrating power of β - rays is	3) The penetrating

<p>rays.</p> <p>4) These are deflected by electric and magnetic fields.</p> <p>5) The ionizing power of α- rays is greater than β and γ - rays.</p> <p>6) These rays affect the photographic plate.</p>	<p>greater than α-rays and less than γ-rays.</p> <p>4)These are deflected by electric and magnetic fields.</p> <p>5) The ionizing power is less than α-rays and greater than γ-rays.</p> <p>6) These rays affect the photographic plate.</p>	<p>power of γ- rays is greater than α rays and β rays.</p> <p>4) These are not deflected by electric and magnetic field.</p> <p>5) The ionizing power is least.</p> <p>6) They affect the photographic plate.</p>
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11. An electric installation of 100 lamps each drawing 0.2 amp current at 220 V supply. Find the cost of working of installation for a month of 30 days at 5 hours per day, if the energy used costs at Rs. 2 per unit.

Ans:-Power $P = V \times I$ and

Electric energy $E = P \times t$

$\Rightarrow P = 220 \times 0.2 = 44$ Watt

E for 100 lamps = $44 \times 150 \times 100 = 660$ KWH = 660 Units.

Cost of 660 units = $660 \times 2 =$ Rs. 1320

12. State the properties and uses of Junction Transistor.

Ans:-

- A Junction transistor has two p-n Junctions
- In a circuit, one Junction of a transistor is forward biased and the other is reverse biased.
- Less resistance is offered to the current flow in forward bias.
- A very high resistance is offered in the reverse bias junction.

Uses:

- Transistor acts as an amplifier.
- Transistors are used as Oscillators.

Transistors are used in stabilized power supplies.

- Transistors are used in IC's.
- Used in Chips.

GROUP - B

13. Define the terms:

a) Strong acid b) Weak acid c) Strong base d) Weak base.

Ans: a) Strong acid: The acid which is completely ionized (100%) is called strong acid.

e.g.: HCl, H_2SO_4 , HNO_3

14. 1 a.m.u. = Mev 931.5

15. The energy gap is highest in the case ofInsulater.

III. Match the following. 10 ×1/2= 5

(i) GROUP - A PHYSICS GROUP - B

21. Electric current (C) A) Volt

22. Ammeter (E) B) Ohm

23. Potential difference (A) C) Ampere

24. Voltmeter (D) D) Potential difference

25. $V = iR$ (B) E) Flow of electric current

(ii) GROUP - A CHEMISTRY GROUP - B

26. Sulphurous acid (E) A) H_2CO_3

27. Carbonic acid (A) B) HNO_2

28. Phosphoric acid (C) C) H_3PO_4

29. Nitrous acid (B) D) HNO_3

30. Nitric acid (C) E) H_2SO_3

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